

WT-1010C2

GSM ALARM SYSTEM

User Manual



WITURA

WITURA CORPORATION SDN BHD

Sketch of the WT-1010C2

ANTENNA

The antenna must be well connected before turn on the terminal



POWER INDICATOR (RED)

The indicator is illuminated when mains power is present

NETWORK INDICATOR (GREEN)

The indicator is illuminated when the terminal is connected to GSM Network

Installation & Connection

TEL PORT 1 (ALARM INPUT)

Connect to Alarm Panel / also function as Phone Input

TEL PORT 2

Connect to PSTN Line

OUTPUT

Connect the RS232 DB15 female cable to the terminal for controlling outputs and inputs

ANTENNA PORT

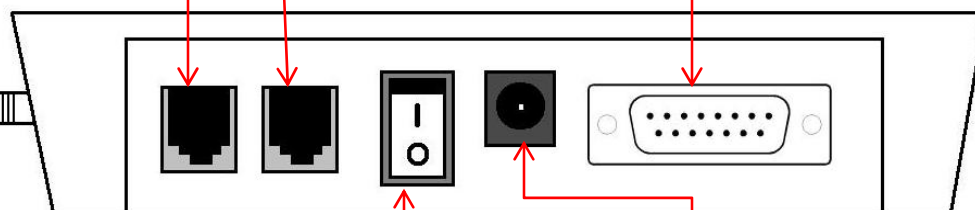
Connect the provided antenna to the Terminal

ON/OFF SWITCH

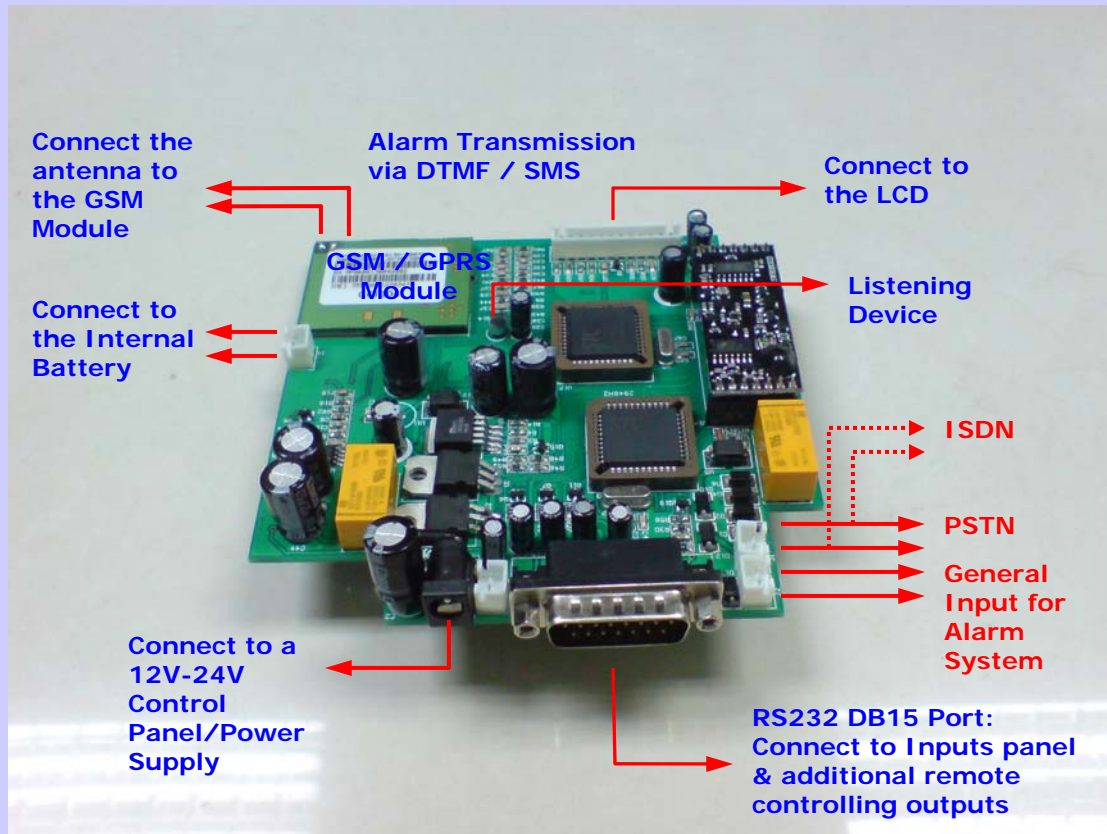
Turn On or Off the Terminal

POWER PORT

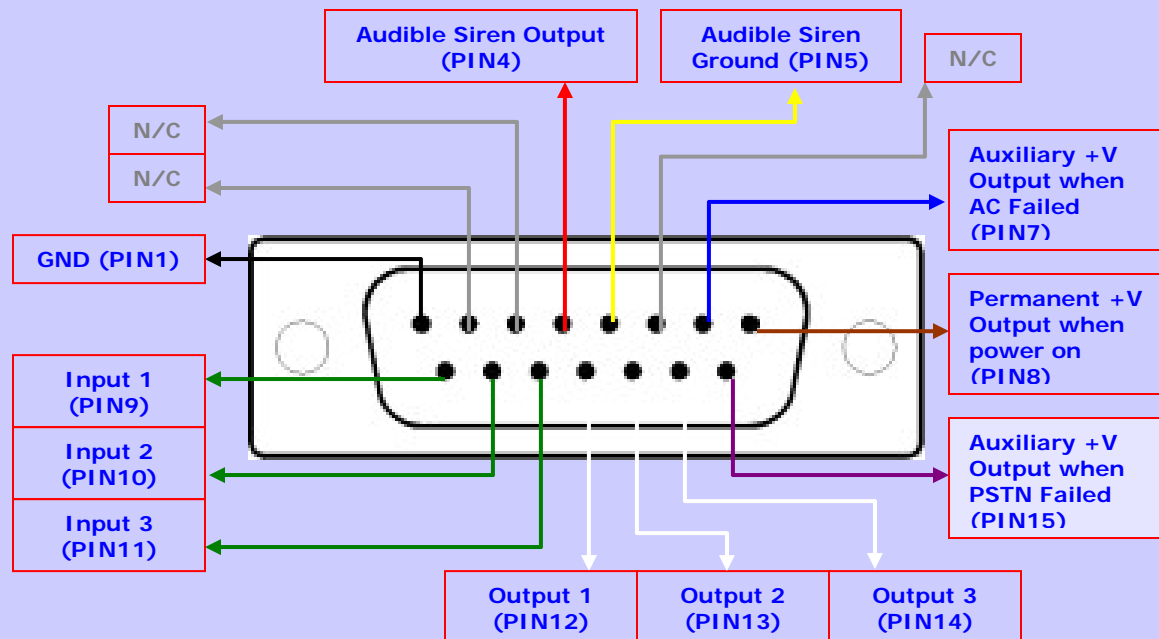
Connect a 12V Power Supply to the Terminal



Wiring Diagram A (Main Unit)



Wiring Diagram B (DB15 Female Cable)



Please check the following packing list:

| <u>Name</u> | <u>Quantity</u> | <u>Unit</u> |
|-------------------------|-----------------|-------------|
| WT-1010C2 Main Unit | 1 | set |
| Telephone line | 1 | set |
| DB15 (F) cable | 1 | set |
| Power adapter | 1 | set |
| 5m GSM terminal antenna | 1 | set |
| User's Manual | 1 | set |

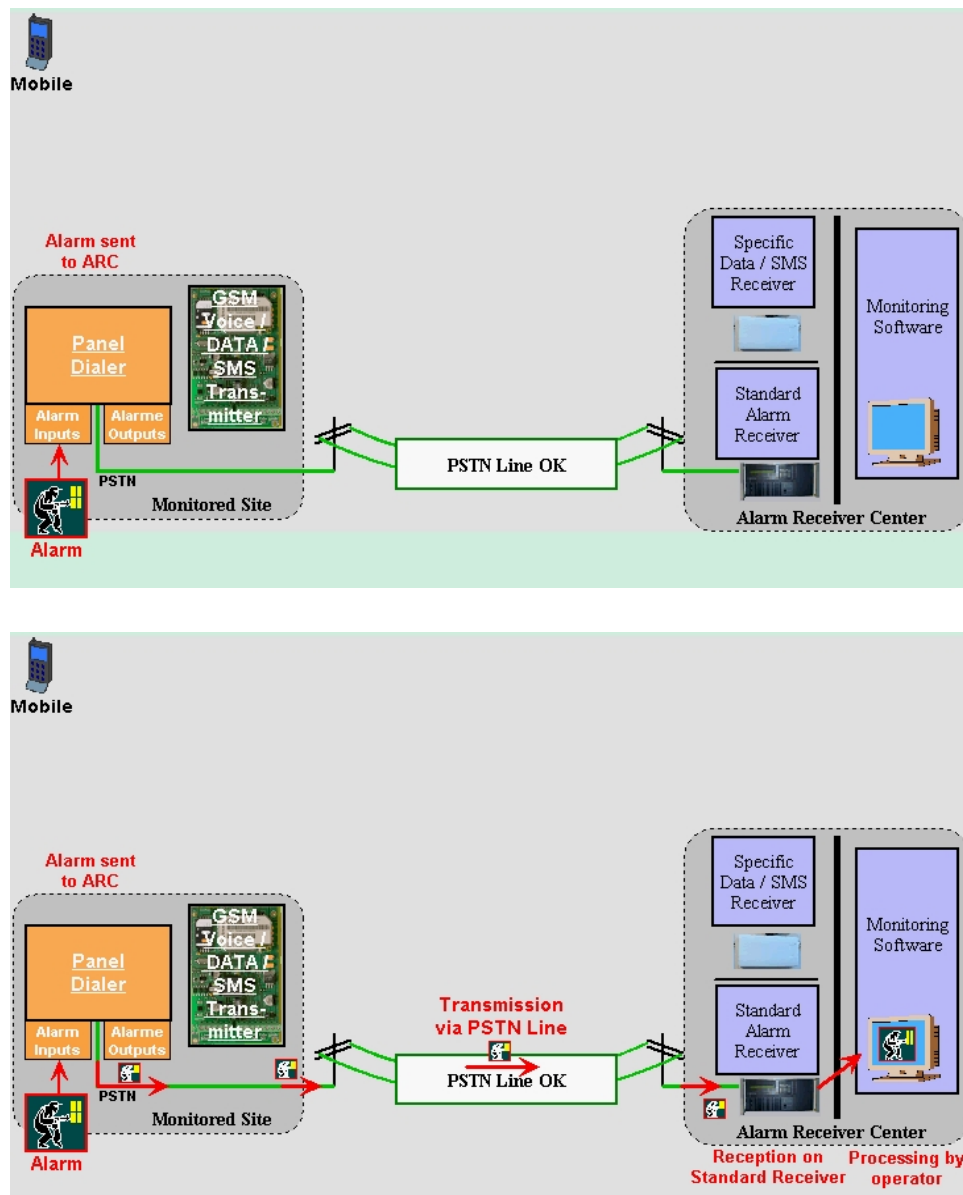
Contents

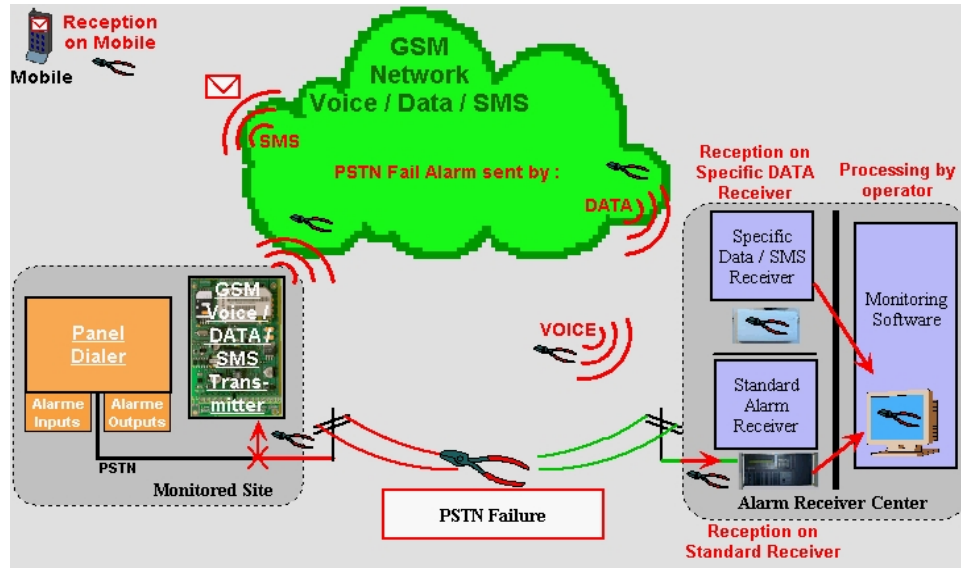
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1. Introduction to the WT-1010C2 GSM Alarm System

The **WT 1010C2** GSM Terminal is a wireless communicator for alarm and fire panels that uses the cell phone network (GSM) to transmit alarms and other panel event. The module checks the status of the PSTN line and in case the PSTN line becomes unavailable, the **WT 1010C2** GSM emulate the line signal to the panel. At this time, the panel will dial out using the GSM cell phone network to communicate with the receiver at the monitoring station and transmit the alarms.

GENERAL OVERVIEW:





2. Main Features of the WT-1010C2

1. Panel compatibility - Allows any contact ID alarm panel to transmit alarms over GSM using the GSM voice channel
2. Works over the GSM cell phone networks Units can be used wherever there is cell phone coverage
3. Telephone line backup: **WT-1010C2** give priority to the lowest cost network. **WT-1010C2** uses the telephone line as the main transmission line and uses the GSM voice channel as backup
4. The **WT-1010C2** unit can continuously watches if a Contact ID is directed towards the security monitoring station through the wired or GSM network, and if either of the preset report codes is noticed, it sends an appropriate SMS message with definable text to a mobile phone numbers. Using this function, the owner can get instant SMS messages not only of alarms but also every event of closing/opening.
5. Auto restart system: It can continuously monitor the system status of its own. When there is a problem with the SIM card or the module is not working properly, it will automatically restart the system.
6. Programmable Account Number: The WT-1010C2 has built-in alarm inputs that allow the unit to send additional signals (with user programmable Account number) to the monitoring station. The Alarm Events that available in this system are PSTN Failure, AC Failure and Auto Test. **Supported Protocol: Pager message (DTMF with handshake)**

7. Sends text messages to user programmable cell phone number (SMS): The **WT-1010C2** can be programmed to send a SMS to a programmable cell phone number to notify the user that the PSTN line has been cut off or unavailable.
8. Wireless Listening Device – The WT-1010C2 has a built-in microphone that can be used for security and surveillance purposes. With this feature, it allows the user to observe the surrounding or the area of the unit.
9. Low power consumption - uses 30mA while in idle state and 260mA when transmitting an alarm
10. Wall mounting enclosure available: The **WT-1010C2** units can be installed inside the alarm panel or inside its own wall mount enclosure.

3. Installation Instructions

Note: It is essential that you read the step by step instructions fully prior to installing and programming the unit

3.1) Description

1. **Antenna:** connect the antenna to the GSM module; place the antenna as far as possible from the WT-1010C2 and do not leave any coiling of the antenna cable to avoid radiant interference
2. **SIM Card:** disable the PIN code and set it to 1234 (default)
For Transmitter Mode (Data or SMS): as with any transmitter, it requires an identifier, receiver telephone numbers, etc (refer to the complete information on Programming page)
3. **Line Input:** connect the line input to the PSTN or ISDN network.
4. **Outputs(Back-Up Mode):** connect the RS232 DB15 to additional remote controlling outputs.
5. **Alarm Input:** connect the input to output of the Alarm Panel / Control Panel.
6. **Power Supply:** connect to a 12V power supply
7. **Operating State:** Approximately 20s after power up, check the operating state indicated by the Power LED: the LED is steady during power up phase, then blinks when the connection to the GSM network is established. The Signal indicator LED will stay lit whenever there is signal.

3.2) WT-1010C2 Inputs and Outputs Wiring Instructions

ZONE1(RLY1), ZONE2 (RLY2), ZONE3 (RLY3) Remote Controlling Outputs

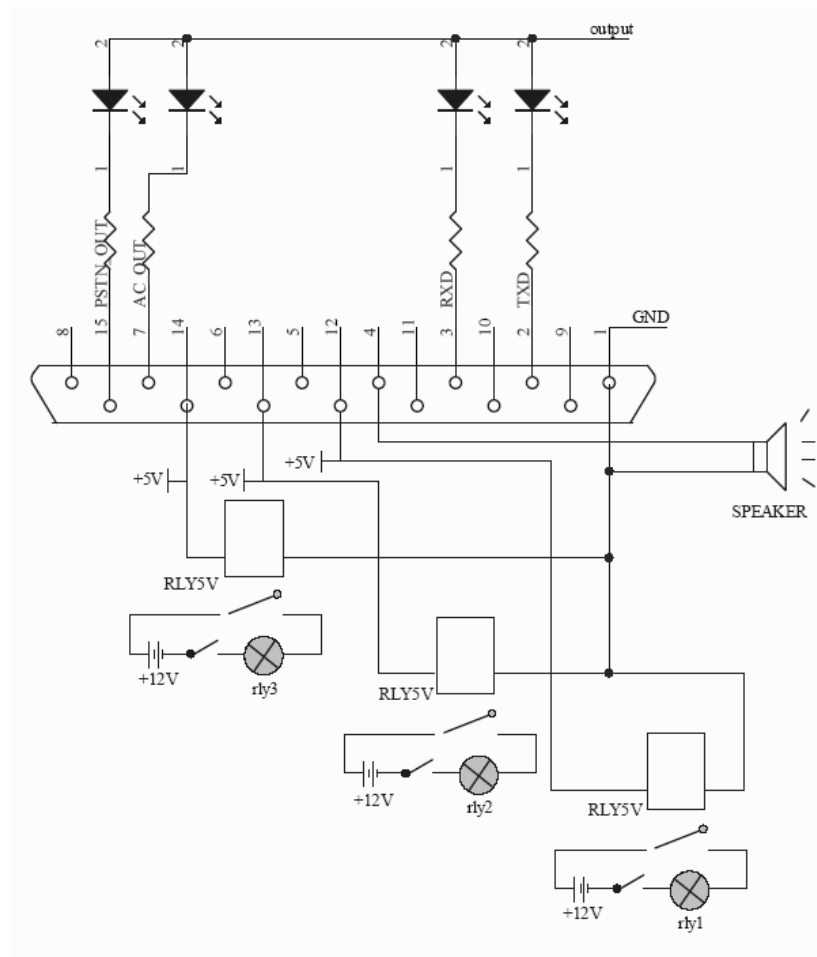
Connect ZONE1, ZONE2 and ZONE3 to additional outputs for remote controlling. These open collector outputs can be turned on and off remotely through a SMS. Remote control will be reachable by sending a SMS with a certain command.

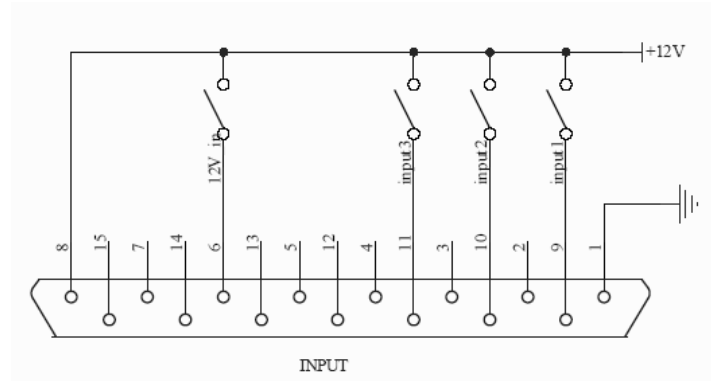
Note: When sending normal SMS with command below, the WT-1010C2 will turn On / Off the output relay and reply a message of output has turned On / Off to a programmable phone numbers.

ZONE4 (IN1), ZONE5 (IN2), ZONE6 (IN3) Inputs

Connect ZONE4, ZONE5 and ZONE6 to inputs panel, when there is a short-circuit impulse on (ZONE4, ZONE5, ZONE6), the WT1010C2 is possible to send SMS to a programmable phone numbers.

For Example: ZONE4 is connected to a electrical door, when there is intruder or the electrical door is opened illegally, WT1010C2 will receive short-circuit impulse on **ZONE4** and will automatically send a signal to the monitoring station and also send a SMS to notify the owner.

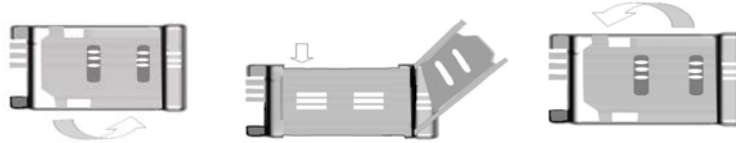




Inputs and Outputs Wiring Diagram

3.3) Installing the SIM Card

Note: Installing the SIM Card. Please be sure the initial 4 digit PIN code of SIM card is disabled. This can be done by placing it in an unlocked Mobile phone and first checking if the SIM requested any PIN code. If this is the case the PIN code can be disabled using the security settings on the phone.



Proceed as follows:

1. Slide back the SIM door and lift it up
2. Slide the SIM card into the SIM door making sure that the clipped corner of the SIM card lines up with the clipped corner of the SIM holder
3. Close the SIM door
4. Slide the SIM door to lock the SIM card in place

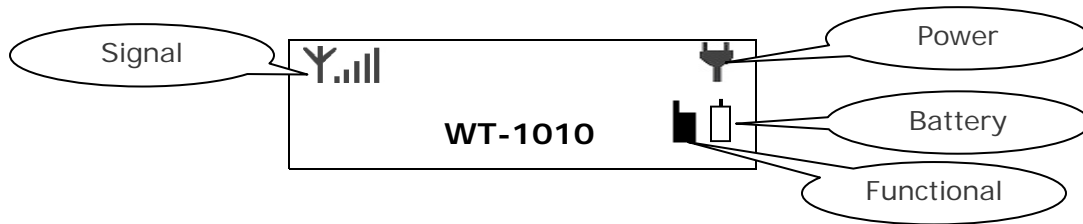
3.4) Power up the WT-1010C2

When power up the WT 1010C2, it will display as below

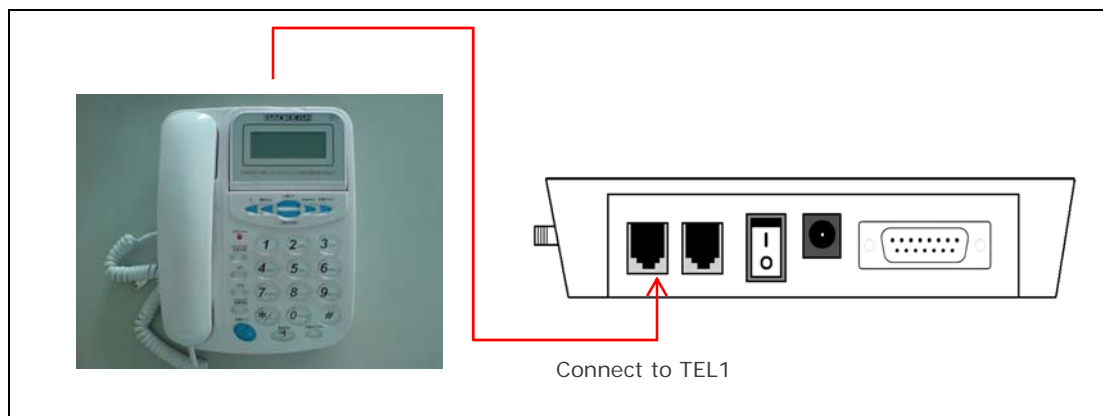
LOADING:>>>>>

WAITING...

When the terminal is ready to use, it will display as below



3.5) Dialing a number from the attached telephone set



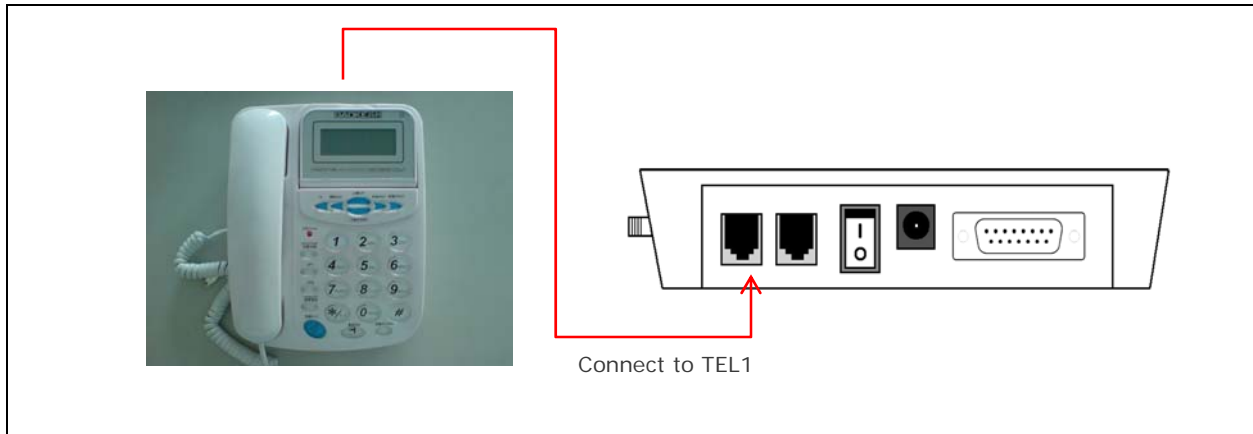
After the GSM module is connected to the GSM network, an attached fixed line phone can be used to make calls. If you pick up the phone, you will hear a dial tone. Simply dial the number you want to call (as if you are dialing from a normal fixed line phone). You can also dial the WT-1010C2 unit's phone number from another phone, and its attached phone will ring as a normal landline phone would. If there is a busy tone on the attached telephone set, either the line you are calling is busy, or the GSM communicator is busy with previous communication at that moment (for example data transfer to the monitoring station).

Note: Some telephone sets are sensitive to the GSM radio signal. For this reason you may hear a characteristic noise in the telephone receiver when calling. If the noise is disturbing, change the location of the phone set (try to keep it as far as possible from the WT-1010C2 unit antenna). Usually it is possible to find a suitable location for the phone with minimal level of interference.

4. WT-1010C2 Configuration Instructions (Via Voice)

4.1 Introduction

The WT-1010C2 can be programmed manually by a connected normal telephone.



Note: Before commencing programming it is advisable to read the below programming setting instructions thoroughly. To start with programming, user must plug-in a normal single line phone to TEL1 (Port 1)

1) Enter Programming Mode

Pick up the handset or press hands free, press ****123456#** to enter programming mode. If the password has entered correctly, you should see **"HAND FREE..."** displayed on WT-1010C2 screen.

Now you may proceed with programming settings.

**ENTER
SETTING...**

When pick up the handset



**ENTER OK
SETTING...**

Password entered correctly



HAND
FREE...

Programming Mode

2) Reset the Main Unit

To reset the unit, you can press ***15*** to proceed.

REST– ON&OFF:



REST– ON&OFF: 1

To reset the unit simply press **1#**

To turn back simply press **0#**



REST– ON&OFF: 1
OK

***Note:** It is advised that you should reset the WT-1010 unit before proceeding to the below programming section.*

3) Programming the Administrator/Central Station Number

Continue pressing ***1*** to start programming the administrator number 1

TEL:

1#



TEL: 13232353646

1#

Enter administrator number and ended with #



| | |
|------|----|
| TEL: | OK |
| | 1# |

Number programmed successfully

You may continue to program administrator number 2, 3, 4, 5, 6, 7 and 8 by pressing *2* , *3* , *4* , *5* , *6* , *7* or *8*

Warning: The administrator number must be program into the WT-1010 unit in order to use SMS programming mode.

4) Deleting the Administrator/Central Station Number

Example: To delete the programmed administrator number 1, you can press *1* to proceed.

| | |
|------|----|
| TEL: | |
| | 1# |



| | |
|------|----|
| TEL: | |
| | 1# |

Simply press # to delete



| | |
|-------|----|
| DEL1: | |
| | OK |

5) Setting the Access Control for Administrator

Note: It is advised that the owner should set the system to allow programming access for administrators only after programmed the Administrator numbers.

To set the access control for administrator, you can press *11* to proceed.

| |
|---------------|
| ANY – ON&OFF: |
|---------------|



ANY – ON&OFF: 1

To turn on this function simply press **1#**

To turn off this function simply press **0#**



ANY – ON&OFF: 1
OK

6) Changing the Login Password

To change the 6 digits login password, you can press ***0*** to proceed.

NEW PASSWORD:



NEW PASSWORD:
654321

Input new password and ended with **#**



NEW PASSWORD:
654321 OK

7) Time Setting

To setup time, you can press ***16*** to proceed.

TIME: : :



TIME: 08 : 30 : 00

Example: To set the time at 8.30am

Simply input digits and ended with #



TIME: 08 : 30 : 00
OK

8) Enable/Disable the feature of Password Request when Login the System

By default every time ringing the system, it will prompt you to input a login password to gain access to the system. To enable/disable this function, you can press *13* to proceed.

PASSWORD– ON&OFF:



PASSWORD– ON&OFF:
1

To enable this function simply press 1#

To disable this function simply press 0#



PASSWORD– ON&OFF:
1 OK

Note: You will need to enable the Password Login feature for the wireless listening function.

9) Setting the Recipient that will receive Alert Messages

The unit can send text alerts to 1 or all 8 of the programmed administrator's mobile phone numbers. To do this setting, you can press *18* to proceed.

SECT:



SECT: 11111111

Example: To turn on this function for all recipients

Simply input **11111111#**



SECT: 11111111
OK

Note: The input for this setting is an **8** digits value: ON (**1**) or OFF (**0**) only.
Each of them represents administrator 1 - 8

10) Setting the Account Number for Event Reporting

When PSTN failure, AC failure or Auto Test, the WT-1010C2 will dial the programmable central station number and transmit the account number along with Contact-ID to the central station. To set the account number, you can press ***36*** to proceed.

ATACC:



ATACC: 9999

Example: To set the account number as 9999

Simply press **9999#**



ATACC: 9999
OK

Note: The account number must entered in 4 digits

11) Setting the Burst On and Burst Off time of DTMF tones

The Burst ON and Burst OFF timing of the sending Contact-ID can be adjust with the below command. To set the Burst on and Burst off time, press ***37*** to proceed.

DTMF BURST TIME
ON: OFF:



DTMF BURST TIME
ON:3 OFF:1

Example: To set the Burst On time at 50~60ms (**3**)
and Burst Off time at 10~20ms (**1**)

Simply press **31#**



DTMF BURST TIME
ON:3 OFF:1 OK

Note: Value **1** stands for 10~20ms

Value **2** stands for 20~40ms

Value **3** stands for 50~60ms

Value **4** stands for 60~80ms

Value **5** stands for 80~100ms

12) Setting the Auto Test Report Time Interval

The system has the function of sending the test report to the central station at the programmable time interval. The time is entered in 24 Hour format.

To set the auto test report time interval, you can press ***17*** to proceed.

DSTM: : :



DSTM: 12 : 00 : 00

Example: To set the auto test report time at 12.00pm

Simply input digits and ended with #



DSTM: 12 : 00 : 00
OK

13) Enable/Disable the function of dialing the programmed Administrator number for Auto Test

To turn on this function, you can press *27* to proceed.

DTIMEC – ON&OFF:



DTIMEC – ON&OFF: 1

To turn on this function simply press 1#

To turn off this function simply press 0#



DTIMEC – ON&OFF: 1
OK

14) Enable/Disable the generation of SMS Report for Auto Test

To turn on this function, you can press *28* to proceed.

DTIMEM – ON&OFF:



DTIMEM – ON&OFF: 1

To turn on this function simply press 1#

To turn off this function simply press 0#



DTIMEM – ON&OFF: 1
OK

15) Setting for Calling a group of administrator numbers

To program the unit to dial a certain group of numbers when PSTN/AC failed or Auto Test, you can press ***29*** to proceed.

CALL:



CALL: 5

Example: Setting the unit to dial the first 5 administrator numbers

Simply press **5#**



CALL: 5
OK

16) "PSTN Failure" Setting

To do this setting, you can press ***30*** to proceed.

PST: ME: OU: AL:
CA:



PST: ME: 1 OU: 1 AL: 1
CA: 1

Example: Setting the unit to generate an Alert Message, call the administrators, generate a pulse (+V) and sound the audible alarm when PSTN failed.

Simply input **1111#**



| |
|--|
| PST: ME: 1 OU: 1 AL: 1 CA: 1 OK |
|--|

Note: *"ME" stands for generation of SMS when PSTN failed*

"OU" stands for generation of pulse (+V) when PSTN failed

"AL" stands for sounding the audible alarm when PSTN failed

"CA" stands for calling the administrators when PSTN failed

Value: ON (1) or OFF (0)

17) "AC Failure" Setting

To do this setting, you can press ***31*** to proceed.

| |
|-------------------------|
| ADC: ME: AL: CA: |
|-------------------------|



| |
|-------------------------------|
| ADC: ME: 1 AL: 1 CA: 1 |
|-------------------------------|

Example: Setting the unit to generate an Alert Message, call the administrators, generate a pulse (+V) and sound the audible alarm when PSTN failed.

Simply input **111#**



| |
|--|
| ADC: ME: 1 AL: 1 CA: 1 OK |
|--|

Note: *"ME" stands for generation of SMS when PSTN failed*

"OU" stands for generation of pulse (+V) when PSTN failed

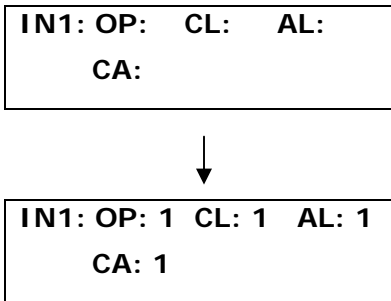
"AL" stands for sounding the audible alarm when PSTN failed

"CA" stands for calling the administrators when PSTN failed

Value: ON (1) or OFF (0)

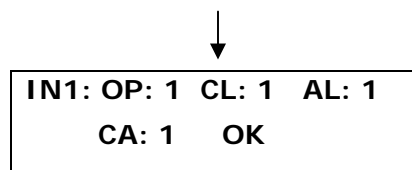
18) Turn on the function of Inputs

To turn on the function of input number 1, you can press ***24*** to proceed.



Example: Setting the input 1 to generate an SMS, call the administrators and sound the audible alarm when it triggered.

Simply input **1111#**

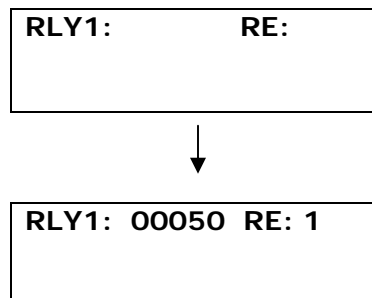


Note: *"OP" stands for generation of SMS when input triggered (Open)*
"CL" stands for generation of SMS when input triggered (Close)
"AL" stands for sounding the audible alarm when input triggered
"CA" stands for calling the administrators when input triggered
 Value: ON (1) or OFF (0)

You may continue to activate relay 2 or relay 3 by pressing ***25*** or ***26***

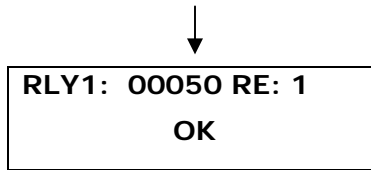
19) Activate Output Relay to stay on for a specific time

To activate output relay 1 to stay on for a specific time, you can press ***21*** to proceed.



Example: To activate relay 1 to stay on for 50 seconds and with SMS reply from the unit after relay has turned off

Simply input **000501#**

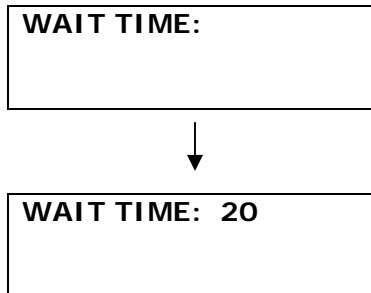


Note: “*RE:*” stands for generation of SMS when relay off, value: ON (1) or OFF (0)

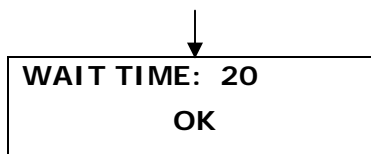
You may continue to activate relay 2 or relay 3 by pressing *22* or *23*

20) Setting the Waiting Time for Engaged Call

In the event the administrator has not answered the call or engaged, it could take a while for the WT-1010C2 to call the next number. You can shorten the time for every call by programming the waiting time. Press *12* to proceed.



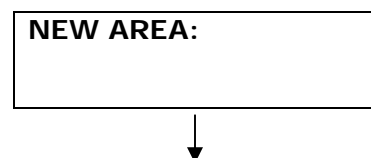
Example: To set the waiting time for 20 seconds
Simply input 20 and ended with #



Note: The waiting time is a 2 digits value range from 20 – 60 seconds
(Default: 30 seconds)

21) Programming the Area Code

To program area code, you can press *9* to proceed.



NEW AREA: 03

Enter area code and ended with #



NEW AREA: OK

Area code programmed successfully

22) Setting the Function of Adding Area Code when Transmitting an Alarm

To turn on/off this function, you can press ***14*** to proceed.

AREA- ON&OFF:



AREA- ON&OFF: 1

To turn on this function simply press **1#**

To turn off this function simply press **0#**



AREA- ON&OFF: 1
OK

23) Setting the Delay Time for Transmitting a Dialing Number

The unit can be set to transmit a dialing number within a specific time. To set the delay time, you can press ***34*** to proceed.

DTTRANSMIT:



DTTRANSMIT: 00007

Example: To set the delay time at 7 seconds

Simply press **00007#**



| | |
|--------------------|-----------|
| DTTRANSMIT: | |
| 00007 | OK |

24) Setting the Alarm Time for Audible Alarm

To set the alarm time for audible alarm, you can press ***33*** to proceed.

| |
|---------------|
| ALARM: |
|---------------|



| |
|---------------------|
| ALARM: 03600 |
|---------------------|

Example: To set the audible alarm to sound for 1 hour when triggered

Simply press **03600#**



| |
|---------------------|
| ALARM: 03600 |
| OK |

Note: The alarm time must entered in 5 digits (00001 – 65535)

25) Inquire all Administrator numbers

To inquire all administrator numbers, you can press ***32*** to proceed.

| |
|---------------|
| ADMIN: |
|---------------|



| |
|----------------------|
| 1: 1234567890 |
|----------------------|

All the administrator numbers will be displayed in sequence

26) Inquire the status of the Recipients that will receive Alert Messages

To inquire the status of the recipients, you can press ***19*** to proceed.

RECIPIENTS:
11111111

The status will be displayed on screen

Press **#** to turn back

27) Inquire the signal strength

To inquire the signal strength, you can press ***20*** to proceed.

CSQ <23>

The signal strength will be displayed on screen

Press **#** to turn back

5. WT-1010C2 Configuration Instructions (Via SMS)

You can program the WT-1010C2 via SMS commands using your phone. Any programming command sent by SMS must be in **CAPITAL** letters. *The fields between square brackets are parameters; do NOT enter the square brackets.* When you send a command, you will receive the answer for the first time even if your GSM number is not in the administrator list. This happens because the WT-1010C2 recognizes any GSM number as administrator and answers to it.

***Warning:** The administrator number must be program into the WT-1010C2 unit first via voice mode in order to use SMS programming mode.*

5.1 Setting the Recipient that will receive Alert Messages

The unit can send text alerts to 1 or all 8 of the programmed administrator's mobile phone numbers and this function can be changed at any time by sending the following commands by SMS message to the unit.

Text Command:

***SECT#XXXXXXXX**

XXXXXXXX stands for **8** digits value: ON (**1**) or OFF (**0**) for the **8** Administrators

Example:

When ***SECT#11110000** is applied, means only administrator **1**, **2**, **3** and **4** will receive alert messages.

Return Message

***SECT#11110000**

Note: You can only put 1 in the first 4 digits of the text command if there are only phone numbers stored in **#TEL1**, **#TEL2**, **#TEL3** and **#TEL4**. The rest should be 0.

When ***SECT#00000000** is applied, means no SMS report.

5.2 Setting the Access Control for Administrator

Note: It is advised that the owner should set the system to allow programming access for administrators only after programmed the Administrator numbers.

Text Command:

***ANY?#X**

X stands for ON (1) or OFF (0) value

When ***ANY?#1** is applied, means only administrator can access the system

When ***ANY?#0 (Default)** is applied, means any person can access the system

To activate this function, you would send ***ANY?#1** SMS command to the unit.

Return Message

ANY-ON

5.3 Time Setting

To set the time, you can send the following SMS command to the unit. The time is entered in 24 Hour format.

Text Command:

***SETM#HH:MM:SS**

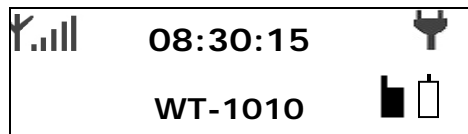
HH stands for 2 digits value: Hour

MM stands for 2 digits value: Minute

SS stands for 2 digits value: Seconds

Example:

When ***SETM#08:30:15** is applied, the time 08:30:15 will be displayed on the LCD screen.



Return Message

SETM-OK

Note: Time setting is necessary for Auto Test Function at No. 9) "Auto Test"
Settings (Page)

5.4 Turn Off the feature of Password Request when Accessing the System

By default every time calling the system, it will prompt you to input a login password to gain access to the system. To turn off this feature, you can send the following SMS command to the unit.

Text Command:

***PWOFF#X**

X stands for ON (**1**) or OFF (**0**) value

When ***PWOFF#1 (Default)** is applied, you can access the system with a login password to program administrator number or changing the login password.

When ***PWOFF#0** is applied, this feature will be turned off and the system will not accept any call.

Example:

To turn off the feature of password request, you would send the following SMS message to the unit.

***PWOFF#0**

Return Message

SETTING-OFF

Note: You will need to enable the Password Login feature for the wireless listening function.

5.5 Setting the Account Number for Event Reporting

When PSTN failure, AC failure or Auto Test, the WT-1010C2 will dial the programmable central station number and transmit the account number along with Contact-ID to the central station.

Text Command:

***ACCT#XXXX...**

XXXX... stands for Account Number (Can be set up to 50 digits)

Example:

To set an account number 9999 into the system, you would send the following SMS message to the unit.

***ACCT#9999**

Return Message

ACCT:9999

***Note:** Please refer to page 43 for Contact-ID Protocol for WT-1010C2*

5.6 Setting the Burst On and Burst Off time of DTMF tones

The Burst ON and Burst OFF timing of the sending Contact-ID can be adjust by sending the following SMS command to the unit.

Text Command:

***BURS#XY**

X stands for Burst On time value: **1 – 5**

Y stands for Burst Off time value: **1 – 5**

Value **1**: 10~20ms

Value **2**: 20~40ms

Value **3**: 50~60ms

Value **4**: 60~80ms

Value **5**: 80~100ms

Example:

To set the Burst on time to 50~60ms and Burst Off time to 10~20ms, you would send the following command to the unit.

***BURS#31**

5.7 "PSTN Failure" Settings

5.7.1 Enable/Disable the function of Dialing the programmable Administrator/Central Station number when PSTN Failed

To program the unit to dial the programmed administrator/central station number when PSTN failed, you can send the following SMS command to the unit.

Text Command:

***PSC?#X**

X stands for ON (**1**) or OFF (**0**) value

When ***PSC?#1** is applied, it will dial the administrator/central station number when PSTN failed.

When ***PSC?#0 (Default)** is applied, it will not dial the administrator/central station number when PSTN failed.

To enable this function, you would send ***PSC?#1** SMS command to the unit.

Return Message

PSC-ON

5.7.2 Enable/Disable the Function of Sending Alert Message when PSTN Failed

The system has the function to send alert message to the user in the event of PSTN unavailable. It is possible to enable or disable this function by sending the following SMS command to the unit.

Text Command:

***PSTN#X**

X stands for ON (**1**) or OFF (**0**) value

When ***PSTN#1 (Default)** is applied, means it will send an alert message when PSTN failed.

When ***PSTN#0** is applied, means it will not send an alert message when PSTN failed.

To enable this function, you would send ***PSTN#1** SMS command to the unit.

Return Message

PSTN-ON

5.7.3 Auxiliary PSTN Fail Output Facility via PIN15

In addition to the alarm and text alert on PSTN fail the system also has a second permanent +V output continuously via PIN15 output of the unit which will remain available for the period of PSTN unavailable. To turn On/Off this function, you can send the following SMS command to the unit.

Text Command:

***PSOF#X**

X stands for ON (**1**) or OFF (**0**) value

When ***PSOF#1** is applied, means it has +V output via PIN15 when PSTN failed.

When ***PSOF#0 (Default)** is applied, would mean turned off this function.

To enable this function, you would send ***PSOF#1** SMS command to the unit.

Return Message

PSOF-ON

5.7.4 Turning the Audible Alarm On/Off for PSTN failure

The system has the function to sound the connected audible siren when PSTN failed. This output is available on the connection PIN4 and ground on the main board. To turn On/Off this function, you can send the following SMS command to the unit.

Text Command:

***PSTA#X**

X stands for ON (**1**) or OFF (**0**) value

When ***PSTA#1** is applied, means audible alarm will sound when PSTN failed.

When ***PSTA#0 (Default)** is applied, means audible alarm will not sound when PSTN failed.

To turn on this function, you would send ***PSTA#1** SMS command to the unit.

Return Message

PSTA-ON

5.8 "AC Failure" Settings

5.8.1 Enable/Disable the function of Dialing the programmable Administrator/Central Station number when AC Failed

To program the unit to dial the programmed administrator/central station number when AC failed, you can send the following SMS command to the unit.

Text Command:

***ACCA#X**

X stands for ON (**1**) or OFF (**0**) value

When ***ACCA#1** is applied, it will dial the administrator/central station number when AC failed.

When ***ACCA#0 (Default)** is applied, it will not dial the administrator/central station number when AC failed.

To enable this function, you would send ***ACCA#1** SMS command to the unit.

Return Message

ACCALL-ON

5.8.2 Enable/Disable the Function of Sending Alert Message when AC Failed

The system has the function to send alert message to the user in the event of power failure. It is possible to enable or disable this function by sending the following SMS command to the unit.

Text Command:

***ACMS#X**

X stands for ON (**1**) or OFF (**0**) value

When ***ACMS#1 (Default)** is applied, means it will send an alert message when AC failed.

When ***ACMS#0** is applied, means it will not send any alert message when AC failed.

To enable this function, you would send ***ACMS#1** SMS command to the unit.

Return Message

ACMESSAGE-ON

5.8.3 Turning the Audible Alarm On/Off for AC failure

The system has the function to sound the connected audible siren when power failure. This output is available on the connection PIN4 and ground on the main board. To turn On/Off this function, you can send the following SMS command to the unit.

Text Command:

***ADAL#X**

X stands for ON (**1**) or OFF (**0**) value

When ***ADAL#1 (Default)** is applied, means audible alarm will sound when AC failed.

When ***ADAL#0** is applied, means audible alarm will not sound when AC failed.

To turn on this function, you would send ***ADAL#1** SMS command to the unit.

Return Message

ACALARM-ON

5.8.4 Auxiliary Power Down Output Facility via PIN7

In addition to the alarm and text alert on AC fail the system also has a second permanent +V output continuously supplied from the battery backup via PIN7 output of the unit which will remain available for the period of AC unavailable.

5.9 "Auto Test" Settings

5.9.1 Setting the Auto Test Report Time Interval

The system has the function of sending the test report to the central station at the programmable time interval. The time is entered in 24 Hour format.

Text Command:

***DSTM#HH:MM:SS**

HH stands for 2 digits value: Hour

MM stands for 2 digits value: Minute

SS stands for 2 digits value: Seconds

Example:

When ***DSTM#23:59:00** is applied, it will send the status of the system via SMS or transmits the Contact-ID to the programmed administrator/central station number on 11.59pm everyday.

Return Message

DSTM-OK

5.9.2 Enable/Disable the SMS Report of Auto Test

The system has the function of sending auto test report by SMS to the programmable administrator/central station number. It is possible to enable or disable this function by sending the following SMS command to the unit.

Text Command:

***DTM?#X**

X stands for ON (1) or OFF (0) value

When ***DTM?#1** is applied, it will send the status of the system via SMS to the programmable administrator/central station number at the programmed report time interval.

When ***DTM?#0 (Default)** is applied, it will not send the status of the system.

To enable this function, you would send ***DTM?#1** SMS command to the unit.

Return Message

DTIME-ON

5.9.3 Editing the Message Contents of SMS Report (Up to 50 Characters)

The message contents can be edited and programmed up to 50 characters. You can change the displayed text by sending the following commands by SMS message to the unit.

Text Command:

***TSMS#XXXXXX...**

XXXXXX... stands for message contents

Example:

If you want the SMS Report to display **"Status:Online"**, you would send the following SMS message to the unit.

***TSMS#Status:Online**

Return Message

TSMS=Status:Online

5.9.4 Enable/Disable the function of Dialing the programmed Administrator number/Central Station number for Auto Test

To program the unit to dial the programmed administrator/central station number for auto test report, you can send the following SMS command to the unit.

Text Command:

***DTC?#X**

X stands for ON (1) or OFF (0) value

When ***DTC?#1** is applied, it will dial the programmable administrator/central station number at the programmed report time interval.

When ***DTC?#0 (Default)** is applied, it will not dial the administrator/central station number.

To enable this function, you would send ***DTC?#1** SMS command to the unit.

Return Message

DTCALL-ON

5.10 Input Settings

5.10.1 Enable/Disable the function of Dialing the programmable Administrator /Central Station number when Input Triggered

To program the unit to dial the programmed administrator/central station number when input triggered, you can send the following SMS command to the unit.

Text Command:

***INC[N]#X**

N stands for Input number **1 - 3**

X stands for ON (**1**) or OFF (**0**) value

When ***INC1#1** is applied, it will dial the programmable administrator/central station number when Input 1 triggered.

When ***INC1#0 (Default)** is applied, it will not dial the administrator/central station number when Input 1 triggered.

To enable this function for input 1, you would send ***INC1#1** SMS command to the unit.

Return Message

INC1CALL-ON

5.10.2 Enable/Disable the function of generating an Alert Message when Inputs Triggered (Open) upon High Pulse

The system has the function to send alert message to the user in the event of input triggered. It is possible to enable or disable this function by sending the following SMS command to the unit.

Text Command:

***INR[N]#X**

N stands for Input number **1 – 3**

X stands for ON (**1**) or OFF (**0**) value

Example:

When ***INR1#1** is applied, means when Input 1 has triggered (Open/High Pulse), it will send an alert message to administrator/central station number 1.

When ***INR1#0 (Default)** is applied, means when Input 1 has triggered (Open/High Pulse), it will not send any alert message to administrator/central station number 1.

To enable this function for input 1, you would send ***INR1#1** SMS command to the unit.

Return Message

INR1-ON

5.10.3 Enable/Disable the function of generating an Alert Message when Inputs Triggered (Close) upon Low Pulse

The system has the function to send alert message to the user in the event of input triggered. It is possible to enable or disable this function by sending the following SMS command to the unit.

Text Command:

***INP[N]#X**

N stands for Input number **1 – 3**

X stands for ON (**1**) or OFF (**0**) value

Example:

When ***INP1#1** is applied, means when Input 1 has triggered (Close/Low Pulse), it will send an alert message to administrator/central station number 1.

When ***INP1#0 (Default)** is applied, means when Input 1 has triggered (Close/Low Pulse), it will not send any alert message to administrator/central station number 1.

To enable this function for input 1, you would send ***INP1#1** SMS command to the unit.

Return Message

INP1-ON

5.10.4 Editing the Inputs Alert Messages (Up to 50 Characters)

The Input Alert Message can be edited and programmed up to 50 characters. You can change the displayed text by sending the following commands by SMS message to the unit. **Note:** *Only support normal abc/ABC English text, no special characters.*

Text Command:

***USE[N]#XXXXXX...**

N stands for Input number **1 – 3**
XXXXXX... stands for alert message content

Example:

If you want the alert message to display **"Garage Opened!"** when input **1** triggered; you would send the following SMS message to the unit.

***USE1#Garage Opened!**

Return Message

USE1=Garage Opened!

5.10.5 Turning the Audible Siren functions On/Off when Inputs Triggered

The system has the function to sound the connected audible siren when input triggered. This output is available on the connection PIN4 and ground on the main board. To turn On/Off this function, you can send the following SMS command to the unit.

Text Command:

***ALM[N]#X**

N stands for Input number **1 – 3**
X stands for ON (**1**) or OFF (**0**) value

When ***ALM1#1** is applied, means audible alarm will sound when Input 1 triggered.
When ***ALM1#0 (Default)** is applied, means audible alarm will not sound when Input 1 triggered.

To turn on this function for input 1, you would send ***ALM1#1** SMS command to the unit.

Return Message

ALM1-ON

5.11 Output Settings

5.11.1 Activate Output Relay to Stay On for a Specific Time

To activate the output relay, you can send a text command via SMS specifying the number of seconds the output should stay on to the unit. It is possible to set up to maximum of 65,535 seconds

Text Command:

***RLY[N]#XXXXX**

N stands for Output number **1 - 3**

XXXXX stands for **5** digits value: The number of seconds (00000-65535)

For example, assume you want to turn on the output relay number 2 for 1 hour, you would send the following SMS message to the unit.

***RLY2#03600**

Return Message

RLY2#=03600

Sending the following SMS Message to unit would mean turn off the output relay number 1.

***RLY1#00000**

5.11.2 Enable/Disable the SMS Report when the Relay has turned off

The system has the function to send a SMS to the user when the relay has turned off. It is possible to enable or disable this function by sending the following SMS command to the unit.

Text Command:

***RLR[N]#X**

N stands for Output number **1 – 3**

X stands for ON (**1**) or OFF (**0**) value

Example:

When ***RLR1#1 (Default)** is applied, means when Relay 1 has turned off, it will send a message to the programmable administrator number 1.

When ***RLR1#0** is applied, means when Relay 1 has turned off, it will not send any message to the programmable administrator number 1.

To enable this function for output 1, you would send ***RLR1#1** SMS command to the unit.

Return Message

RLR1-ON

5.12 Setting the Waiting Time for Engaged Call

In the event the administrator has not answered the call or engaged, it could take a while for the WT-1010C2 to call the next number. You can shorten the time for every call by sending the following SMS command to the unit.

Text Command:

***WAIT#XX**

XX stands for 2 digits value: the number of seconds (20 – 60)

Example:

To program the waiting time to 20 seconds, you would send ***WAIT#20** SMS command to the unit.

Return Message

***WAIT-TIME#=20**

5.13 Programming the Area Code into WT-1010

To program the area code into the system, you can send the following SMS command to the unit.

Text Command:

***AREA#XXXX**

XXXX stands for 4 digits value: Area Code

Example:

To program area code **04**, you would send ***AREA#04** SMS command to the unit.

Return Message

AREA-OK

5.14 Setting the Function of Adding Area Code when Transmitting an Alarm

The system has the function of adding area code automatically when dialing the number from the alarm panel. It is possible to enable or disable this function by sending the following SMS command to the unit.

Text Command:

***AROF#X**

X stands for ON (1) or OFF (0) value

When ***AROF#1** is applied, it will add the programmed area code in front every time it dials the number from the alarm panel.

When ***AROF#0 (Default)** is applied, it will not add the programmed area code in front every time it dials the number from the alarm panel.

To enable this function, you would send ***AROF#1** SMS command to the unit.

Return Message

AROF-ON

5.15 Setting the Delay Time for Transmitting a Dialing Number

The unit can be set to transmit a dialing number within a specific time. To program the delay time of transmitting a dialing number, you can send the following SMS command to the unit.

Text Command:

***DATM#XXXXX**

XXXXX stands for 5 digits value: the number of seconds (00000-65535)

When ***DATM#00007** is applied, the system will send out the dialing number to the programmable administrator/central station number within 7 seconds.

Return Message

***DAIL-TIME#=00007**

5.16 Setting the Alarm Time for Audible Alarm (Default: 600 seconds)

The alarm siren can be set to determine how long the siren will remain active and this can be done by sending the following SMS command to the unit.

Text Command:

***ALTM#XXXXX**

XXXXX stands for **5** digits value: The number of seconds (00000-65535)

Example:

When ***ALTM#03600** is applied, means the audible alarm will sound for 1 hour when triggered

Return Message

***ALTM#3600**

5.17 Miscellaneous Settings

5.17.1 Inquire All Programmed Administrator/Central Station Number

To inquire all the programmed administrator/central station number, you can send the following SMS command to the unit.

Text Command:

***ADM?#**

5.17.2 Inquire the status of the Recipients that will receive Alert Messages

To inquire the status of the recipients that will receive alert messages, you can send the following SMS command to the unit.

Text Command:

***ASRE#**

5.17.3 Checking Signal Strength

To check the signal strength of the unit, you can send the following SMS command to the unit.

Text Command:

***CSQ?#**

5.17.4 Inquire Time Status

To check the time status, you can send the following SMS command to the unit.

Text Command:

***ASTM#**

5.17.5 Sound the Audible Alarm manually

It is possible to sound the alarm manually by sending the following SMS command to the unit, which remain active for the period of time set.

Text Command:

***ALNF#X**

X stands for ON (**1**) or OFF (**0**) value

When ***ALNF#1** is applied, means audible alarm will sound.

When ***ALNF#0 (Default)** is applied, means audible alarm will turn off.

5.17.6 Emergency Dialing the Programmable Administrator/Central Station numbers

The system has the function of dialing the programmable administrator/central station numbers immediately when the below SMS command is issued.

Text Command:

***DIAL#**

5.17.7 Setting for Dialing a group of administrator numbers when PSTN/AC failed or Auto Test

To program the unit to dial a certain group of numbers when PSTN/AC failed or Auto Test, you can send the following SMS command to the unit.

Text Command:

***CALL#X**

X stands for group number: **1 – 8**

Example:

When ***CALL#5** is applied, means it will dial the first 5 administrator numbers.

5.17.8 Changing the Login Password

It is possible to change the login password by sending the following SMS command.

Text Command:

***PAWO#XXXXXX**

XXXXXX stands for **6** digits New Password

5.17.9 Permanent +V Output Facility

There is a permanent +V output when the WT-1010C2 is power on. This output is available on the connection PIN8 and ground on the main board. The output voltage is according to power supply used on WT-1010C2. It can be used to power on other facility or device.

5.17.10 Reset the WT-1010C2

To reset the unit, you can send the following command by SMS to the unit.

Text Command:

***REST#XXXXXX**

XXXXXX stands for 6 digits password based on ***PAWO#** (Default: **123456**) and it can be changed anytime.

6. Digital Communication Standard - Contact ID Protocol for WT-1010C2

Objectives

- a) Provide information regarding events that are occurring on a customer's premises. This information should be in a form that can easily be interpreted by a central station operator.
- b) Spend minimum practical time on line per transaction, to minimize the number of receivers required to handle the traffic and minimize the time the line is seized and not available to the customer.
- c) Minimize the transmission error rate.

Tolerances

Unless otherwise specified, the tolerance for measurements specified within this standard shall be 10 percent ($\pm 10\%$).

Transmission Components

The transmitter to receiver communication session is composed of three basic elements: the *Handshake Tone sequence*, *Message Blocks*, and *Acknowledgements*.

The Handshake Tone sequence consists of a pair of single-frequency tones sequenced in time.

The Message Blocks consist of a series of DTMF tone bursts separated by spaces.

The Acknowledgement Tone is a single tone burst.

Handshake Tones

The Handshake Tone sequence is produced by the RECEIVER. The purpose is to signal the TRANSMITTER that the communication channel is ready.

Placement

The Handshake Tone sequence is emitted by the receiver after going off-hook and delaying an interval of at least 0.5 seconds but typically no greater than 2.0 seconds.

This time allows the phone network connection to settle before the communication process begins.

Composition

The handshake tone sequence shall consist of:

- A burst of 1400 Hz. $\pm 3\%$ tone with a duration of 100 msec. $\pm 5\%$
- A pause of 100 msec. $\pm 5\%$
- A burst of 2300 Hz. $\pm 3\%$ tone with a duration of 100 msec. $\pm 5\%$

Note: Transmitters shall accept a frequency error of at least $\pm 5\%$ to ensure back-compatibility with older receivers.

Message Blocks

A Message Block is sent by the TRANSMITTER for each message in the transmitter's message queue. Each message block contains sufficient information to report an event in the system.

Placement

The first message block is sent beginning 250 msec. (250 min., 300 max.) after the end of either the Handshake Tone sequence or after a Kissoff (Acknowledgement) tone.

The delay is timed from the end of the tone.

Inter-Message Time

After sending its message, the transmitter should wait for 1.25 sec. for the start of a Kissoff Tone from the receiver. If the start of a kissoff tone is detected, the transmitter must continue timing the tone, even if the inter-message time expires. The panel must detect a minimum of 400 msec. of the Kissoff Tone for it to be considered to be valid.

If a Kissoff tone is detected, the transmitter should wait for the tone to end and then wait 250 msec. (250 min., 300 max.) before beginning the next message.

If no Kissoff Tone is received, the transmitter should repeat the message after the expiration of the 1.25 second inter-message interval.

Data Tones

The message is sent using standard DTMF tones.

The timing of the tones shall be as follows:

Burst ON time - 50 msec. (50 min., 60 max.)

Burst OFF time- 50 msec. (50 min., 60 max.)

The details of the tones are contained in the following table.

Data Transmission Frequencies – Standard DTMF Signaling

| Digit | Low Tone (Hz.) | High Tone (Hz.) | Digit Value |
|-------|-------------------|--------------------|----------------|
| 0 | 941 | 1336 | 10 |
| 1 | 697 | 1209 | 1 |
| 2 | 697 | 1336 | 2 |
| 3 | 697 | 1477 | 3 |
| 4 | 770 | 1209 | 4 |
| 5 | 770 | 1336 | 5 |
| 6 | 770 | 1477 | 6 |
| 7 | 852 | 1209 | 7 |
| 8 | 852 | 1336 | 8 |
| 9 | 852 | 1477 | 9 |
| B(*) | 941 | 1209 | 11 |
| C(#) | 941 | 1477 | 12 |
| D | 697 | 1633 | 13 |
| E | 770 | 1633 | 14 |
| F | 852 | 1633 | 15 |

Notes:

- 1) The digit '0' is transmitted with a value of 10 and shall be counted as a 10 in calculation of the message checksum.
- 2) The DTMF pair of 941 Hz. And 1633 Hz. is not used in this format and shall not be sent.
- 3) The frequency deviation on each of the above frequencies shall be $\pm 1.5\%$ max.

Kissoff (Acknowledgement) Tone

The Kissoff tone from the receiver is used to tell the transmitter that the message has been received successfully. The frequency of the tone shall be 1400 Hz. $\pm 3\%$ and shall be sent by the receiver for a minimum of 750 msec. and a maximum period of 1 second.

The transmitter must detect a minimum of 400 msec. of tone before considering the kissoff to be valid.

Note: Transmitters shall accept a frequency error of at least $\pm 5\%$ to ensure back compatibility with older receivers

Maximum Number of Attempts

The transmitter shall make up to 4 attempts to deliver a message before hanging up and redialing. The attempts counter is reset each time a valid kissoff signal is received.

7. Technical Specifications

1. Environment temperature: $0 \sim +50^{\circ}\text{C}$
2. Relative humidity: $10\% \sim 95\%$
3. Air pressure: $86 \sim 106\text{kpa}$
4. Environment yawp: $\leq 60\text{dB (A)}$
5. Working frequency: GSM900MHz/GSM1800MHz
6. Stability of frequency: better than 2.5PPM
7. Signal sensitivity: -103dBm
8. Transmit power: $< 2\text{w}$
9. Power: $220\text{v} \pm 15\% \text{ AC}$
10. Input Voltage Tolerances: $1 \sim 20\text{VDC}$
11. The max distance between terminal and telephone: 100M

Warranty

Witura Corporation Sdn Bhd guarantees all WT-1010C2 GSM Fixed Wireless Terminal against defective parts and workmanship. Witura Corporation Sdn Bhd shall, at its option, repair or replace the defective equipment upon the return of such equipment to any Witura branch. This warranty applies ONLY to defects in components and workman-ship and NOT to damage due to causes beyond the control of Witura, such as incorrect voltage, lightning damage, mechanical shock, water damage, fire damage, or damage arising out of abuse and improper application of the equipment.

Note: Wherever possible, return only the PCB to Witura Service Centres.
DO NOT return the enclosure.

The WT-1010C2 is a product of
Witura Corporation Sdn Bhd
And is manufactured by
Shenzhen Witura Telecommunications Co., Ltd.

WARNING

For safety reasons, only connect equipment with a telecommunications compliance label. This includes customer equipment previously labelled permitted or certified.